# COMMERCIAL STANDARD CS147–47

for

# COLORS FOR MOLDED UREA PLASTICS

## 1. PURPOSE

1.1. The purpose of this commercial standard is to promote understanding, and to facilitate the sale and purchase of colored molded urea plastic materials and products. Among the results to be accomplished are:

1.1.1. Clear understanding between molders, manufacturers, and purchasers of goods as to the exact color wanted; an easy method of designating colors, allowing simpler contracts with purchasers of molded products, with less chance of error.

1.1.2. Fewer rejections of material and finished goods.

1.1.3. Quicker deliveries because colors can be stocked; smaller inventories for molders; simpler storage and stocking of colored products; faster turn-over of material and finished goods.

1.1.4. Interchangeability of finished products; less hazard of obsolescence of consumers' goods in hands of molders and their customers.

1.2. The adoption of standard colors is not intended to restrict the production of other colors. It is the intent that plastic materials manufacturers will continue their custom of the past in supplying any colors desired by their customers when the amount involved warrants it, such colors being furnished without reference to this commercial standard.

## 2. SCOPE

2.1. This standard covers 17 colors adopted as standard by the industry. It defines the standard colors in reproducible terms; specifies tolerances; provides for standard samples and designations to be used by materials manufacturers, molders, and purchasers in specifying the colors desired.

## 3. REQUIREMENTS

3.1. *Colors.*—The 17 colors covered by this commercial standard are specified in table 1.

3.2. *Tolerances.*—Articles supplied as conforming to any color of the standard, except white and near-white, shall conform to the designated standard within 5 NBS units [1] of color difference under daylight and incandescent lamp illumination. A tolerance of 2 NBS units shall apply to MUP–00, MUP–01, MUP–02, and MUP–03.

[1] See Appendix, p. 4.

843208—50

TABLE 1

| Color designation | Color name [1] ISCC–NBS | Munsell notation [2] | Chromaticity coordinates [3] | | Daylight reflectance | Textile Color Card Association closest hue match [4] | | | Color Harmony Manual closest color match [5] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | x | y | Y (%) | Cable No. | Designation | ΔH | Designation | ΔE |
| White: | | | | | | | | | | |
| MUP-00 | White | 6PB 8.8/0.4 | 0.310 | 0.318 | 74.5 | | | | | |
| MUP-01 | Yellowish white. | 10YR 9.0/1 | .318 | .325 | 79.3 | 70001 | White | 0.1 | a | 2 |
| MUP-02 | Yellowish gray | 6.5Y 7.7/0.8 | .320 | .330 | 54.3 | | | | | |
| MUP-03 | Weak yellow | 4.5Y 8.2/2.5 | .340 | .349 | 61.9 | 70003 | Cream | .2 | 2ca* | 8 |
| Green: | | | | | | | | | | |
| MUP-12 | Light green | 3.5G 6.6/5.8 | .281 | .382 | 37.7 | 70214 | Scarab green. | 2 | 22ga | 4 |
| MUP-18 | Light blue-green. | 4.5BG 6.6/6.4 | .258 | .328 | 37.0 | 70020 | Turquoise | 4 | 19ga | 4 |
| Pink: | | | | | | | | | | |
| MUP-22 | Moderate pink. | 10RP 6.7/8.9 | .370 | .305 | 39.1 | 70097 | Vassar rose | 1 | 8ga* | 6 |
| MUP-24 | Moderate orange pink. | 1YR 7.1/4.3 | .359 | .333 | 44.3 | 70181 | Chalk pink | 5 | 5cc | 3 |
| Yellow: | | | | | | | | | | |
| MUP-32 | Weak yellow | 5Y 7.8/3.1 | .350 | .361 | 56.0 | 70004 | Eggshell | 2 | | |
| MUP-37 | Strong yellow | 5.5Y 7.6/12 | .456 | .487 | 52.6 | 70205 | Lemon yellow. | 3 | | |
| Blue: | | | | | | | | | | |
| MUP-42 | Vivid purplish blue. | 5PB 4.8/13+* | .191 | .191 | 14.0 | 70211 | Bluebird | 4 | 14la | 4 |
| MUP-43 | Light blue | 2.5PB 5.9/6.7 | .243 | .255 | 29.3 | 70043 | Sistine | 6 | 14ga | 5 |
| Orange: | | | | | | | | | | |
| MUP-58 | Vivid reddish orange. | 1YR 5.8/16* | .594 | .380 | 22.9 | 70072 | Indian orange. | 4 | | |
| Black: | | | | | | | | | | |
| MUP-60 | Black | 1.8PB 0.2/0.4 | .296 | .299 | .2 | 65018 | Army black. | .4 | p | 0.3 |
| Gray: | | | | | | | | | | |
| MUP-69 | Medium gray | N 5.7/ | .309 | .316 | 26.8 | 70152 | Nickel | 3 | e | 3 |
| Red: | | | | | | | | | | |
| MUP-71 | Vivid red | 6R 3.6/13+* | .641 | .326 | 9.5 | 70042 | Pimento | .4 | 7pa | 2 |
| Maroon: | | | | | | | | | | |
| MUP-75 | Deep red | 5R 1.4/12.5* | .578 | .277 | 1.9 | 70083 | Garnet | 2 | | |

[1] Inter Society Color Council, National Bureau of Standards. See "Method of Designating Colors," by D. B. Judd and K. L. Kelly, Journal of Research of the National Bureau of Standards 23, 355.

[2] Munsell Book of Color, published by Munsell Color Co., 10 East Franklin Street, Baltimore, Md. Asterisks (*) indicate Munsell notations of the commercial standard colors that are so far outside the range of the colors in the Munsell book as to be considerably less certain than those found by interpolation.

[3] Standard coordinate system for colorimetry recommended in 1931 by the International Commission on Illumination (ICI). Data computed for ICI standard source C from spectrophotometric measurements.

[4] This tabulation is included for the convenience of those who wish to select textile colors to harmonize with the commercial standard plastic colors. The entries designate colors in the Standard Color Card of America, 9th edition, and the U. S. Army Color Card, both issued by the Textile Color Card Association of the U. S., Inc., 200 Madison Avenue, New York City. The color chosen is the particular one of the near color matches represented in these cards that has the closest hue match to the commercial standard color. The column headed "ΔH" indicates the amount of hue difference between the commercial standard color and the TCCA color determined spectrophotometrically (J. Research NBS 36, 209 (1946); RP1700), expressed in NBS units. (See Appendix.)

[5] The column headed "Designation" gives the designation of the closest color match in the Color Harmony Manual (1942 and 1946 editions), issued by the Container Corporation of America, Inc., 38 S. Dearborn Street, Chicago 3, Ill. The glossy side of the CHM sample was used for comparison in all cases except those indicated by an asterisk (*). In those cases the dull side was used. The column headed "ΔE" indicates the amount of color difference between the commercial standard color and the CHM color, expressed in NBS units. (See Appendix.) Since the foregoing comparisons were made, a third edition (1948) of the Color Harmony Manual has been issued. In some cases a closer match for the commercial standard colors may be found in that edition.

3.3. *Standard samples.*—Standard samples shall be made of molded urea plastic material, and will be available from the Plastic Materials Manufacturers Association, Tower Building, 14th and K Streets, Northwest, Washington 5, D. C., for $2.50 per set of 17. Standard samples shall conform to the ICI specifications given in table 1 (i. e., shall be duplicates of the originally adopted samples) within a tolerance of 1 NBS unit.

## 4. IDENTIFICATION

4.1. It is recommended that plastic materials and products conforming to colors covered by this commercial standard be identified by means of labels, tags, invoices, etc. The following form is recommended:

> The color of this molded urea plastic article (or urea plastic molding material) conforms to color MUP- , as specified in Commercial Standard CS147–47, as developed by the trade under the procedure of the National Bureau of Standards, and issued by the U. S. Department of Commerce.

4.2. When available space on labels is insufficient for the full statement in legible type, an abbreviated statement as follows is recommended:

> Complies with CS147–47 as developed by the trade, and issued by the U. S. Department of Commerce.

## EFFECTIVE DATE

5. Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this commercial standard was issued by the United States Department of Commerce, effective from December 15, 1947.

Edwin W. Ely,
*Chief, Commodity Standards Division.*

## HISTORY OF PROJECT

6. On January 4, 1945, the Plastic Materials Manufacturers Association requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for colors for molded urea plastics.

After circularization of the industry to ascertain extent of interest in the project, a set of 17 tentative molded color samples was mailed on July 2, 1946, to all interested parties, and comment was requested on the selection of colors. A proposed commercial standard was circulated to interested organizations on October 2, 1946, also requesting comment.

Following receipt of comment on both the proposed commercial standard and the selection of colors, a Recommended Commercial Standard was circulated to the trade on February 10, 1947. The specification and the listed colors were the result of adjustment in accordance with majority viewpoint as indicated by the comment.

On November 14, 1947, having received acceptances in writing estimated to represent a satisfactory majority, announcement was issued that the commercial standard, designated CS147–47, would become effective for new production on December 15, 1947.

## STANDING COMMITTEE

7. The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, National Bureau of Standards, which acts as secretary for the committee.

F. H. CARMAN (chairman), Plastic Materials Manufacturers Association, Inc., 731 Tower Building, Washington 5, D. C.
HORTON SPITZER, Plaskon Division, Libbey-Owens-Ford Glass Co., 2112 Sylvan Avenue, Toledo 6, Ohio.
WILLIAM H. MACHALE, Plastics Department, American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.
EDWIN F. JAMES, Sylvan Plastics, Inc., 350 Fifth Avenue, New York 1, N. Y.
R. H. CUNNINGHAM, Bryant Electric Co., Bridgeport, Conn.
FRANK WARNER, General Electric Company, 1 Plastics Avenue, Pittsfield, Mass.
SIDNEY EMSIG, Emsig Manufacturing Co., 225 West Sixtieth Street, New York 23, N. Y.
GEORGE W. CARLSON, Arrow-Hart & Hegeman Electric Co., 103 Hawthorn Street, Hartford, Conn.
MRS. MARGARET H. RORKE, The Textile Color Card Association of the United States, Inc., 200 Madison Avenue, New York 16, N. Y.
WALTER C. GRANVILLE, Container Corp. of America, 38 South Dearborn Street, Chicago 3, Ill.

# APPENDIX

## THE NBS UNIT OF COLOR DIFFERENCE

*By* D. B. Judd

The size of any color difference may be found in NBS units by calculation from the ICI tristimulus values ($X$, $Y$, $Z$) of the two colors, and it may also be found from colorimetric comparison of the two specimens. If the specimens are of similar composition and essentially nonfluorescent, the determination may be made by means of a photoelectric tristimulus colorimeter as described in NBS Circular C429.

The size of the difference may also be estimated conveniently and with considerable reliability from the Munsell renotations of the two colors. One NBS unit corresponds approximately to 0.10 Munsell value step, to 0.15 Munsell chroma step and to 0.25 Munsell hue step at chroma 10, or to 2.5 Munsell hue steps at chroma 1. If the two colors differ in more than one dimension the number of NBS units may be estimated by taking the sum of the NBS units in each dimension.

The NBS unit of color difference is intended to be so small that color differences of less than one unit will be perceptually unimportant in most commercial transactions. This unit is about 3 or 4 times the smallest color difference perceptible with certainty under the best conditions of observation by a trained inspector. One NBS unit is regarded as a reasonable tolerance within which a working

standard of color should duplicate the master standard. This applies to incandescent-lamp light as well as daylight illumination.

In specifying 5 NBS units as a tolerance within which the colors of products shall conform to the working standard, the desire was to avoid a strict tolerance that would work undue hardship on the manufacturer, or cause unwarranted cost to the purchaser. A difference of 5 NBS units is quite easily detected by an inspector under favorable conditions of observation (i. e., uniform illumination, large areas for comparison and proximity of compared areas, similarity of shape and surface texture, and absence of specular reflections or reflections from colored surroundings); indeed, a difference of double that amount is likely to give the impression that the two colors are distinctly different rather than one being merely a variation or shade of the other. On the other hand, the complex shapes of most articles manufactured from plastic materials renders small color differences unimportant. On this account, a tolerance of 5 NBS units is expected to yield a match in general quite satisfactory to the customer.

An exception to this general rule applies to the near-white standards. Near-white colors are very frequently used and the observing conditions are more often such that color tolerances for near-whites are more strict than for other colors. Accordingly, a smaller tolerance is considered necessary to match satisfactorily the near-white standards. This opinion is borne out by the fact that the master standard MUP–00 differs from MUP–01 by slightly less than 5 NBS units, as does also MUP–02 from MUP–03, while the color differences are quite noticeable under usual viewing conditions.

An exception in the opposite sense may be experienced if the color of a plastic be compared to a material of widely different texture or finish, such as a textile. Often a color difference of as much as 10 NBS units or more may be considered an acceptable commercial match in such cases. The most important condition to be satisfied is that the textile duplicate closely the hue of the plastic.

AMENDMENT NO. 1
COLORS FOR MOLDED UREA PLASTICS
COMMERCIAL STANDARD CS147-47

TS-5203

The Standing Committee for Molded Urea Plastics has approved changes in the colors covered by Commercial Standard CS147-47. All acceptors were previously notified, none of which has filed objections to the changes. Accordingly, the changes shown below will become effective beginning February 15, 1954.

1. Colors designated MUP-02, MUP-58 and MUP-60 shall be discontinued as standard colors.
2. New colors shown below in Table 1 (Supplement) are added to the list of standard colors.

Table 1 (Supplement)

| Color Designation | Color name ISCC-NBS | Munsell notation | Chromaticity Coordinates | | Daylight Reflectance | Textile Color Card Association closest hue match | | Color Harmony Manual closest color match |
|---|---|---|---|---|---|---|---|---|
| | | | x | y | Y (%) | Cable No. | Designation | Designation |
| WHITE: | | | | | | | | |
| MUP-05 | White | 2.5Y8.7/0.5 | .306 | .318 | 56.0 | - | - | - |
| GREEN: | | | | | | | | |
| MUP-14 | Strong green | 2.5G4.5/7.0 | .268 | .436 | 17.8 | 70167 | Primitive green | 22pc |
| BLUE: | | | | | | | | |
| MUP-49 | Bluish black | 7.5PB1.5/1.0 | .293 | .296 | 5.0 | 70090 | Midnight | 13po |
| BROWN: | | | | | | | | |
| MUP-55 | Light brown | 7.5YR4.8/3.4 | .377 | .361 | 18.8 | 70092 | Cork | 31g* |
| GREY: | | | | | | | | |
| MUP-65 | Medium grey | N4.8 | .303 | .312 | 21.2 | 70153 | Steel | g |

Note: See footnotes to Table 1, CS147-47, for explanation of column headings.
Munsell notations, chromaticity coordinates, and daylight reflectance data were furnished by the Manufacturing Chemists' Association; Textile Color Card and Color Harmony Manual data were furnished respectively by the Textile Color Card Assn. and Container Corporation of America.

CS147–47

## ACCEPTANCE OF COMMERCIAL STANDARD

**If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.**

Date _____

Commodity Standards Division,
National Bureau of Standards,
Washington 25, D. C.

Gentlemen:

We believe that the Commercial Standard CS147–47 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production [1] distribution [1] purchase [1] testing [1]

of molded urea plastics.

We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

(Cut on this line)

Signature of authorized officer _____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____
(Fill in exactly as it should be listed)

Street address _____

City, Zone, and State _____

[1] Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General Support" should be added after the signature.

## TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish for specific commodities, nationally recognized grades or consumer criteria and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold; first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptances and adherence to the standard on the part of producers, distributors, and users, and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active valid opposition, the success of the project is announced. If, however, in the opinion of the Standing Committee or the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

# ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, testing, or purchase of colored molded urea plastics. In accepting the standard they reserved the right to depart therefrom as they individually deem advisable. It is expected that articles which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

## ASSOCIATIONS
(General Support)

American Association of Textile Chemists and Colorists, Bound Brook, N. J.
Plastic Materials Manufacturers Association, Inc., Washington, D. C.
Prefabricated Home Manufacturers' Institute, Washington, D. C.
Rail Steel Bar Association, Chicago, Ill.

## FIRMS AND OTHER INTERESTS

American Cyanamid Co., Calco Chemical Division, Bound Brook, N. J.
American Cyanamid Co., Plastics Division, New York, N. Y.
American Molding Co., San Francisco, Calif. (General support.)
American Optical Co., Scientific Instrument Division, Buffalo, N. Y.
American Phenolic Corp., Chicago, Ill.
American Stove Co., St. Louis, Mo.
Armstrong Cork Co., Lancaster, Pa.
Arrow-Hart & Hegeman Electric Co., Hartford, Conn.
Atlas Consolidated Corp., Brooklyn, N. Y.
Auburn Button Works, Inc., Auburn, N. Y.
Bolta Co., Lawrence, Mass.
Breinig Brothers, Inc., Hoboken, N. J.
Breneman, Chas. W., Co., Cincinnati, Ohio.
Bridgeport Moulded Products, Inc., Fairfield, Conn.
Brown & Bigelow, St. Paul, Minn.
Butterfield, T. F., Inc., Naugatuck, Conn.
Canadian General Electric Co., Ltd., Toronto, Ontario, Canada.
Cavalier Corp. (formerly Tennessee Furniture Corp.), Chattanooga, Tenn.
Chicago Molded Products Corp., Chicago, Ill.
Church, C. F., Manufacturing Co., Monson, Mass.
Circle F Manufacturing Co., Trenton, N. J.
Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn.
Container Corporation of America, Color Laboratories Division, Chicago, Ill. (General support.)
Continental Can Co., Inc., Plastics Division, Cambridge, Ohio.
Daystrom Corp., Olean, N. Y.
Dick, A. B., Co., Chicago, Ill.
Dimco Plastics, Inc., Dayton, Ohio.
Dow Chemical Co., The, Midland, Mich.
Dussi-Wallace & Co., New York, N. Y.
Eagle Electric Manufacturing Co., Inc., Long Island City, N. Y.
Easy Washing Machine Corp., Syracuse, N. Y.
Esselen Research Corp., Boston, Mass.
Ferro Enamel Corp., Cleveland, Ohio.
Ford Motor Co., Dearborn, Mich.
Formold Plastics, Inc., Chicago, Ill.
Fuld Bros., Inc., Baltimore, Md.
General Electric Co., Pittsfield, Mass., and Schenectady, N. Y.
General Industries Co., The, Elyria, Ohio.
General Molded Products, Inc., Des Plaines, Ill.
General Motors Corp., Delco Products Division, Dayton, Ohio.
General Motors Corp., Delco Radio Division, Kokomo, Ind.
General Motors Corp., Research Laboratories Division, Detroit, Mich.
General Railway Signal Co., Rochester, N. Y.
Gibson Refrigerator Co., Greenville, Mich.
Hall China Co., The, East Liverpool, Ohio.
Hospital Bureau of Standards & Supplies, Inc., New York, N. Y.
Imperial Molded Products Corp., Chicago, Ill.
Industrial Molded Products Co., Inc., Chicago, Ill.
Interchemical Corp., Bound Brook Division, Bound Brook, N. J.
Kellogg Switchboard & Supply Co., Chicago, Ill.
Ketchem, Howard, Inc., New York, N. Y.
Kurz-Kasch, Inc., Dayton, Ohio.
Landers, Frary & Clark, New Britain, Conn.
Lanfare Molded Products, Toledo, Ohio.
Libbey-Owens-Ford Glass Co., Plaskon Division, Toledo, Ohio.
Lionel Corp., The, Irvington, N. J.
Lloyd Products Co., The, Providence, R. I.
Malco Co., Inc., The, Minneapolis, Minn.
Manufacturers Chemical Corp., Berkeley Heights, N. J.
Martindell Molding Co., Trenton, N. J.
McDonald Manufacturing Co., Los Angeles, Calif.
Michigan Molded Plastics, Inc., Dexter, Mich.
Molded Insulation Co., Philadelphia, Pa.
Molding Corp. of America, Inc., Providence, R. I.
Monsanto Chemical Co., Springfield, Mass.
Montgomery Ward, Chicago, Ill.
Newark Stove Co., Newark, Ohio.
Noma Electric Corp., Estate Heatrola Division, Hamilton, Ohio.
Northam Warren Corp., Stamford, Conn.
Northeastern Molding Co., Inc., The, New Haven, Conn.
Northern Industrial Chemical Co., South Boston, Mass.
Northwest Plastics, Inc., St. Paul, Minn.
Owens-Illinois Glass Co., Toledo, Ohio.
Patent Button Co. of Tennessee, The, Knoxville, Tenn.
Peerless Molded Plastics, Inc., Toledo, Ohio.
Phoenix-American Pipe Works, Boonville, Mo.
Phoenix Metal Cap Co., Chicago, Ill.
Pittsburgh Plastics Co., Latrobe, Pa.
Pittsburgh Plate Glass Co., Milwaukee, Wis. (General support.)
Plastic Research Products Co., Urbana, Ohio.
Raymond Laboratories, Inc., St. Paul, Minn.
Recto Molded Products, Inc., Cincinnati, Ohio.
Red Spot Paint & Varnish Co., Evansville, Ind.
Reinhold-Geiger Plastics, Los Angeles, Calif.
Richardson Co., The, Melrose Park, Ill.
Rodale Manufacturing Co., Inc., Emmaus, Pa.
Safety Car Heating & Lighting Co., Inc., The, Hamden, Conn.
Scurlock Corp., Chicago, Ill.
Seroussi, Victor L., & Co., New York, N. Y.
Shaw Insulator Co., Irvington, N. J.
Silex Co., The, Hartford, Conn.
Snell, Foster D., Inc., New York, N. Y.
Specification Record, Chicago, Ill.
Standard Plastics Co., Inc., Attleboro, Mass.
Stewart Bros. Paint Co., Alliance, Ohio.
Stokes Molded Products, Trenton, N. J.
Sylvan Plastics, Inc., New York, N. Y.
Synvar Corp., Wilmington, Del.
Tappan Stove Co., The, Mansfield, Ohio.
Terkelsen Machine Co., Boston, Mass.
Texas, University of, Bureau of Engineering Research, Austin, Tex.
Victor Industries Corp., Brooklyn, N. Y.
Victor Metal Products Corp., Brooklyn, N. Y.
Warren Plastics Corp., Warren, Pa.
Waterbury Cos., Inc., Waterbury, Conn.
Watertown Manufacturing Co., The, Watertown, Conn.
Wheeling Stamping Co., Wheeling, W. Va.

## UNITED STATES GOVERNMENT

Agriculture, U. S. Department of, Division of Purchase, Sales & Traffic, Washington, D. C.

# COMMERCIAL STANDARDS

CS No.

0-40. Commercial standards and their value to business (third edition).
1-42. Clinical thermometers (third edition).
2-30. Mopsticks.
3-40. Stoddard solvent (third edition).
4-29. Staple porcelain (all-clay) plumbing fixtures.
5-46. Pipe nipples; brass, copper, steel, and wrought-iron (second edition).
6-31. Wrought-iron pipe nipples (second edition). Superseded by CS5-46.
7-29. Standard weight malleable iron or steel screwed unions.
8-41. Gage blanks (third edition).
9-33. Builders' template hardware (second edition).
10-29. Brass pipe nipples. Superseded by CS5-46.
11-41. Moisture regains of cotton yarns (second edition).
12-48. Fuel oils (sixth edition).
13-44. Dress patterns (fourth edition).
14-43. Boys' button-on waists, shirts, junior and sport shirts (made from woven fabrics) (third edition).
15-46. Men's pajama sizes (made from woven fabrics) (third edition).
16-29. Wall paper.
17-47. Diamond core drill fittings (fourth edition).
18-29. Hickory golf shafts.
19-32. Foundry patterns of wood (second edition).
20-47. Staple vitreous china plumbing fixtures (fourth edition).
21-39. Interchangeable ground-glass joints, stopcocks, and stoppers (fourth edition).
22-40. Builders' hardware (nontemplate) (second edition).
23-30. Feldspar.
24-43. Screw threads and tap-drill sizes.
25-30. Special screw threads. Superseded by CS 24-43.
26-30. Aromatic red cedar closet lining.
27-36. Mirrors (second edition).
28-46. Cotton fabric tents, tarpaulins, and covers (second edition).
29-31. Staple seats for water-closet bowls.
30-31. Colors for sanitary ware. (Withdrawn as commercial standard, Mar. 15, 1948.)
31-38. Wood shingles (fourth edition).
32-31. Cotton cloth for rubber and pyroxylin coating.
33-43. Knit underwear (exclusive of rayon) (second edition).
34-31. Bag, case, and strap leather.
35-47. Hardwood plywood (third edition).
36-33. Fourdrinier wire cloth (second edition).
37-31. Steel bone plates and screws.
38-32. Hospital rubber sheeting.
39-37. Wool and part wool blankets (second edition). (Withdrawn as commercial standard, July 14, 1941.)
40-32. Surgeons' rubber gloves.
41-32. Surgeons' latex gloves.
42-48. Structural fiber insulating board (third edition).
43-32. Grading of sulphonated oils.
44-32. Apple wraps.
45-48. Douglas fir plywood (eighth edition).
46-49. Hosiery lengths and sizes (fourth edition).
47-34. Marking of gold-filled and rolled-gold-plate articles other than watchcases.
48-40. Domestic burners for Pennsylvania anthracite (underfeed type) (second edition).
49-34. Chip board, laminated chip board, and miscellaneous boards for bookbinding purposes.
50-34. Binder's board for bookbinding and other purposes.
51-35. Marking articles made of silver in combination with gold.

CS No.

52-35. Mohair pile fabrics (100-percent mohair plain velvet, 100-percent mohair plain frieze, and 50-percent mohair plain frieze).
53-35. Colors and finishes for cast stone.
54-35. Mattresses for hospitals.
55-35. Mattresses for institutions.
56-49. Oak flooring (third edition).
57-40. Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings (second edition).
58-36. Woven elastic fabrics for use in overalls (overall elastic webbing).
59-44. Textiles—testing and reporting (fourth edition).
60-48. Hardwood dimension lumber (second edition).
61-37. Wood-slat venetian blinds.
62-38. Colors for kitchen accessories.
63-38. Colors for bathroom accessories.
64-37. Walnut veneers.
65-43. Methods of analysis and of reporting fiber composition of textile products (second edition).
66-38. Marking of articles made wholly or in part of platinum.
67-38. Marking articles made of karat gold.
68-38. Liquid hypochlorite disinfectant, deodorant, and germicide.
69-38. Pine oil disinfectant.
70-41. Phenolic disinfectant (emulsifying type) (second edition) (published with CS71-41).
71-41. Phenolic disinfectant (soluble type) (second edition) (published with CS70-41).
72-38. Household insecticide (liquid spray type).
73-48. Old growth Douglas fir, Sitka spruce, and Western hemlock standard stock doors (fourth edition).
74-39. Solid hardwood wall paneling.
75-42. Automatic mechanical draft oil burners designed for domestic installations (second edition).
76-39. Hardwood interior trim and molding.
77-48. Enameled cast-iron plumbing fixtures (second edition).
78-40. Ground-and-polished lenses for sun glasses (second edition) (published with CS79-40).
79-40. Blown, drawn, and dropped lenses for sun glasses (second edition) (published with CS78-40).
80-41. Electric direction signal systems other than semaphore type for commercial and other vehicles subject to special motor vehicl laws (after market).
81-41. Adverse-weather lamps for vehicles (after market).
82-41. Inner-controlled spotlamps for vehicles (after market).
83-41. Clearance, marker, and identification lamps for vehicles (after market).
84-41. Electric tail lamps for vehicles (after market).
85-41. Electric license-plate lamps for vehicles (after market).
86-41. Electric stop lamps for vehicles (after market).
87-41. Red electric warning lanterns.
88-41. Liquid burning flares.
89-40. Hardwood stair treads and risers.
90-49. Power cranes and shovels.
91-41. Factory-fitted Douglas fir entrance doors.
92-41. Cedar, cypress, and redwood tank stock lumber.
93-41. Portable electric drills (exclusive of high frequency).
94-41. Calking lead.
95-41. Lead pipe.
96-41. Lead traps and bends.

CS No.

97–42. Electric supplementary driving and passing lamps for vehicles (after market).
98–42. Artists' oil paints.
99–42. Gas floor furnaces—gravity circulating type.
100–47. Porcelain-enameled steel utensils (third edition).
101–43. Flue-connected oil-burning space heaters equipped with vaporizing pot-type burners.
102– . (Reserved for Diesel and fuel-oil engines.)
103–48. Rayon jacquard velour (with or without other decorative yarn) (second edition).
104–49. Warm-air furnaces equipped with vaporizing type oil burners (third edition).
105–48. Mineral wool insulation for low temperatures (second edition).
106–44. Boys' pajama sizes (woven fabrics) (second edition).
107–45. Commercial electric-refrigeration condensing units (second edition). (Withdrawn as commercial standard September 4, 1947.)
108–43. Treading automobile and truck tires.
109–44. Solid-fuel-burning forced-air furnaces.
110–43. Tire repairs—vulcanized (passenger, truck, and bus tires).
111–43. Earthenware (vitreous-glazed) plumbing fixtures.
112–43. Homogeneous fiber wallboard.
113–44. Oil-burning floor furnaces equipped with vaporizing pot-type burners.
114–43. Hospital sheeting for mattress protection.
115–44. Porcelain-enameled tanks for domestic use.
116–44. Bituminized-fiber drain and sewer pipe.
117–49. Mineral wool insulation for heated industrial equipment (second edition).
118–44. Marking of jewelry and novelties of silver.
(E)119–45.[1] Dial indicators (for linear measurements).
120–48. Standard stock ponderosa pine doors (third edition).
121–45. Women's slip sizes (woven fabrics).
122–45. Western hemlock plywood.
123–49. Grading of diamond powder (second edition).
(E)124–45.[1] Master disks.
125–47. Prefabricated homes (second edition).
126–45. Tank mounted air compressors.
127–45. Self-contained mechanically refrigerated drinking water coolers.

CS No.

128–45. Men's sport shirt sizes—woven fabrics (other than those marked with regular neckband sizes).
129–47. Materials for safety wearing apparel (second edition).
130–46. Color materials for art education in schools.
131–46. Industrial mineral wool products, all types—testing and reporting.
132–46. Hardware cloth.
133–46. Woven wire netting.
134–46. Cast aluminum cooking utensils (metal composition).
135–46. Men's shirt sizes (exclusive of work shirts).
136–46. Blankets for hospitals (wool, and wool and cotton).
137–46. Size measurements for men's and boys' shorts (woven fabrics).
138–47. Insect wire screening.
139–47. Work gloves.
140–47. Testing and rating convectors.
141–47. Sine bars, blocks, plates, and fixtures.
142–47. Automotive lifts.
143–47. Standard strength and extra strength perforated clay pipe.
144–47. Formed metal porcelain enameled sanitary ware.
145–47. Testing and rating hand-fired hot water supply boilers.
146–47. Gowns for hospital patients.
147–47. Colors for molded urea plastics.
148–48. Men's circular flat and rib knit rayon underwear.
149–48. Utility type house dress sizes.
150–48. Hot rolled rail steel bars (produced from Tee-section rails).
151–48. Body measurements for the sizing of apparel for infants, babies, toddlers and children (for the knit underwear industry).
152–48. Copper naphthenate wood preservative.
153–48. Body measurements for the sizing of apparel for girls (for the knit underwear industry).
154– . (Reserved for wire rope).
155–49. Body measurements for the sizing of apparel for boys (for the knit underwear industry).
156–49. Colors for polystyrene plastics.
157–49. Ponderosa pine and sugar pine plywood.
158–49. Model forms for girls' apparel.
159–49. Sun glass lenses made of ground and polished plate glass thereafter thermally curved.

[1] Where "(E)" precedes the CS number, it indicates an emergency commercial standard, drafted under war conditions with a view toward early revision.

NOTICE.—Those interested in commercial standards with a view toward accepting them as a basis of everyday practice may secure copies of the above standards, while the supply lasts, by addressing the National Bureau of Standards, Washington 25, D. C.

U. S. GOVERNMENT PRINTING OFFICE: 1950

CS 147-47

Scanned 6/21/06

federal register

## DEPARTMENT OF COMMERCE

National Bureau of Standards

### COLORS FOR MOLDED UREA PLASTICS

Commercial Standard Action on Proposed Withdrawal

In accordance with § 10.12 of the Department's "Procedures for the Development of Voluntary Product Standards" (15 CFR Part 10, as revised; 35 FR 8349 dated May 28, 1970), notice is hereby given of the withdrawal of Commercial Standard CS 147-47, "Colors for Molded Urea Plastics."

It has been determined that this standard is technically inadequate, no longer used by the industry and that revision would serve no useful purpose. This action is taken in furtherance of the Department's announced intentions as set forth in the public notice appearing in the FEDERAL REGISTER of November 25, 1974 (39 FR 41191), to withdraw this standard.

The effective date for the withdrawal of this standard will be March 10, 1975. This withdrawal action terminates the authority to refer to this standard as a voluntary standard developed under the Department of Commerce procedures.

Dated: January 3, 1975.

RICHARD W. ROBERTS,
*Director.*

[FR Doc.75-795 Filed 1-8-75;8:45 am]